



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/878,491	06/11/2001	Kazuo Maeda	VREX-0022USAAON00	2088
7590	11/26/2003		EXAMINER CHANG, AUDREY Y	
Gerow D. Brill Reveo, Inc. 85 Executive Blvd. Elmsford, NY 10523			ART UNIT 2872	PAPER NUMBER

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/878,491

Applicant(s)

MAEDA ET AL.

Examiner

Audrey Y. Chang

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,6-13 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4,6-13 and 16-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on **September 11, 2003** has been entered.
2. This Office Action is also in response to applicant's amendment filed on September 11, 2003, which has been entered as paper number 13.
3. By this amendment, the applicant has amended claims 4, 6-8, 10, 12, 13, and 16-17, has canceled claims 5, 14-15 and has newly added claim 18.
4. Claims 4, 6-13 and 16-18 remain pending in this application.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features concerning the left eye and right eye images stated in claims 10 and 18 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they **do not** include the following reference sign(s) mentioned in the description: 20, 22, 24, 26, 30, 32, 34, and 36. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they **do not** include the following reference sign(s) mentioned in the description: 1, 2, 3, 5, 6, 7, and 8. A proposed

Art Unit: 2872

drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

8. Figure 1 should be designated by a legend such as --*Prior Art*-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

9. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "24" has been used to designate both *adhesive agent* and *ultra-hard blade*. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. **Claims 4, 6-13, and 16-18 are rejected under 35 U.S.C. 112, first paragraph**, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was **not** described in the specification in such a way as to **enable** one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification and the claims fail to teach how to "cut[ting] away specified portions of said phase difference film ... so that a plurality of grooves extending from a first side of said phase difference film to a second side of said phase difference film", as recited in claim 4, and yet the phase difference

Art Unit: 2872

film still has one single film structure. The plurality of grooves extended from one side to the second side will make the "film" having a plurality of **separated** film regions that are not connected to each other and will not compose a single film.

The specification and the claims **fail** to teach how could a half wave plate is capable of being used with a 3D display to create 3D viewing. The retarder has to be patterned and **be working together** with a **polarizer**, (as shown in Figure 9 of cited Faris reference (PN. 5,327,285)) in order to provided micro-polarizer pattern to allow selectively displaying left eye and right eye image respectfully to create stereoscopic viewing. Claims 13 and 16 have specifically claim that the phase difference film to be a half wave plate. If the applicant does not claim to use a half wave plate to create 3D image displaying and viewing then the claims and the specification also **FAIL** to provide how does the 3D image display is achieved.

The specification and the claims also fail to teach how could the "light passing through said specific position on said phase difference film correspond to image **rotated** for optima viewing by a right eye and light passing through spaces between said specified positions correspond to images **rotated** for optimal viewing by a left eye" as recited in claims 10 and 18. The specification fails to teach what is being rotated or how does the image light be rotated and in particular how could the cut away portions be able to rotate the image light.

The specification also fails to teach how could a wave plate (as recited in claim 16) becomes a polarizing film (as in claim 17).

Clarifications are required.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2872

13. **Claims 4, 6-13, 16-18 are rejected under 35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "said phase difference film side" recited in claim 6 is indefinite and confusing since it is not clear which side is considered to be the side referred here.

The phrase "said specified positions" recited in claims 10 and 18 are confusing and indefinite since the phrase lacks proper antecedent basis from their respective based claims. Specified portions are the term being used before.

The phrase "38□m" recited in claim 12 is confusing and indefinite.

Claim 16 is dependent from "claim 1" which is a canceled claim, this therefore makes the scope of the claim (including claim 17) unclear.

The phrase "polarizing film" recited in claim 17 is confusing and in error since it is not clear what is this film and where does it come from.

The claims are generally narrative and indefinite, failing to conform to current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. The applicant is respectfully reminded to clear out ALL of the discrepancies of the claims to make the claims in comply with the requirements of 35 USC 112, first and second paragraphs.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2872

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 4, 6-13 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Faris (PN. 5,327,285) in view of the patent issued to Okamoto (PN. 6,147,738) and Gerber et al (PN. 5,720,649).

Faris teaches a *micropolarizer* (Figure 1), serves as the film, which can be used with spatially multiplexed image elements in a *3D stereo display system*, (please see column 1). The stereoscopic viewing is enabled by having the *micropolarizer* (1, Figure 1) with mixed regions of *orthogonal polarization states* (P1 and P2) that are aligned with the spatially multiplexed left and right eye image respectively such that the right eye and left eye image are then coded with orthogonal polarization states (P1 and P2), (the micropolarizer therefore serves as the left eye and right eye image *display parts*), respectively, and then with the help of a spectacle the left and right eye images could be viewed by left and right eye respectively of an observer. Faris teaches that the *micropolarizer is manufactured by laminating a PVA film* (5, 10 or 68, in Figures 2-3 and 6a), which is drawn to have birefringence, *with a CAB or TAC film* (4 or 69) that together serve as the *laminated phase difference film*. Faris also teaches that the specific portions of the laminated polarizing film may be cut away by using a *diamond cutter* (66, Figure 6a) so that a plurality of grooves extending from a first side of the polarizing film with respect to the second side are formed, (please see Figure 6a and column 4, lines 24-30). The plurality of grooves are then corresponding to patterned regions of linear polarizer or half wave plate (pattern 38, Figure 9).

This reference has met all the limitations of the claims. Faris teaches that the micropolarizer could be used with spatially multiplexed image element to create stereoscopic display wherein the spatially multiplexed image element may serve as the *transparent support member* however it does not teach explicitly to include protective layer (as in claim 14) and an adhesive layer. *Okamoto* in the same field of endeavor teaches a polarizer (18 in Figure 1) used with a liquid crystal display device wherein the polarizer layer (19, Figure 3) is interposed between a pair of TAC film (20 and 21) and is *adhered* via an

Art Unit: 2872

adhesive layer (24) to a *transparent glass substrate* (9). The polarizer is also protected by a *protective film* (23), (please see Figures 1 and 3). It would then have been obvious to one having ordinary skill in the art to modify the micropolarizer of Faris to make it adhered to a glass substrate via an adhesive layer and to be covered with a protective layer for the benefit of easy adoption of the micropolarizer to any display device, including spatially multiplexed image element or display member for the stereoscopic viewing, and for the benefit of protecting it from foreign dusts so that the viewing quality may be enhanced.

Faris teaches that a diamond cutter is used to cut away the specific regions of the phase difference film to create the pattern as shown. Although it does not teach explicitly that the diamond cutter has “ultra hard blade” however cutting tool including blades made of hard metal such as tungsten carbide for cutting optical elements is very well known in the art as taught by Gerber et al (please see blade 122, Figure 13 and column 8 lines 51-65). Gerber et al further teaches that cutting tools including *hard metal blades* or *diamond particle cutter* are both well known in the art and are equivalent cutting tools for cutting optical elements. It would then have been obvious to one skilled in the art to also use hard metal blade as alternative cutting tool to cut away the specific portions of the film to form the pattern desired for the phase difference film for the benefit of obtaining an easy accessible cutting tool that is less costly.

With regard to claims 8-9, Faris teaches that the specified cut-away regions are not filled with any material. Although this reference does not teach that the cut-away regions are filled with synthetic resin, since the specification fails to teach the criticality of having this filling will overcome any problem in the prior art such modification is considered to be obvious matters of design choice to one skilled in the art for the benefit of adding certain protection layer to the polarizer.

With regard to the feature concerning the drawn PVA film, Faris teaches that the PVA film is stretched to obtain polarization property. Faris teaches that the PVA film is of 10-20 micron thick but it does not teach explicitly that it is of 38 micron, (with regard to claim 12). However the specification fails

Art Unit: 2872

to teach the criticality of having this particular thickness will overcome any problem in the prior art and the micropolarizer of Faris functions the same as the instant application, such modification is therefore considered to be obvious matters of design choice to one skilled in the art for the benefit of providing different arrangement for the film.

With regard to claim 11, Faris teaches that the TAC or CAB film is of a thickness of 125 μm , which is essentially the same as 126 μm , (please see column 2, lines 60).

With regard to claim 16, Faris in a different embodiment, teaches that the PVA film may be formed to have patterned π phase regions (37 in Figure 9) such that the patterned film form a *half wave retarder*, (please see Figure 9). This means the patterned regions (37) impart a phase difference of 180 degree to the light passes through them as compared to the light passed through the regions without the patterned film. In this case the PVA film is not a polarizer.

With regard to claim 17, Faris teaches that the pitch of the micropolarizer may be ranged between 10^4 micron to 10 micron, which certainly includes 160 micron, (please see column 1). Faris also teaches that the micropolarizer can have checkerboard type of arrangement for regions having polarization states P1 and P2 respectively, (please see Figure 1). This suggests that the pitches for the micropolarizer in both the width and length directions may assume the values stated above.

With regard to claims 10 and 18, the feature concerning the patterned phase difference film or the patterned micropolarizer or half wave retarder for imparting phase difference to left eye and right eye image lights are described in paragraphs above.

Double Patenting

16. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

Art Unit: 2872

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

17. Applicant is advised that should **claim 10** be found allowable, **claim 18** will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Response to Arguments

18. Applicant's arguments filed on September 11, 2003 have been fully considered but they are not persuasive. The newly submitted claims have been fully considered and they are rejected for the reasons stated above.

The applicant seems to be confused with the notion of "polarization" and the "phase retardation" effect. The applicant is respectfully noted that a "phase difference film" is **not** a linear polarizer. The cited patent (PN. 5,327,285) incorporated as reference never teaches such. The applicant is respectfully reminded that a polarizer is **not** a wave plate, (please check standard optic textbook). A polarizer as understood in the art has the function to *select* out a single polarization state of the incident light. A half wave plate, which is a *retarder*, has the effect of *rotating* a polarization state of a *polarized* light. The two elements are different optical elements and have *different optical functions*. The applicant is respectfully advised to consult with standard optics textbook for such effects.

19. Applicant's arguments are drawn to the amendment of the claims and they have been fully addressed in the paragraphs above.

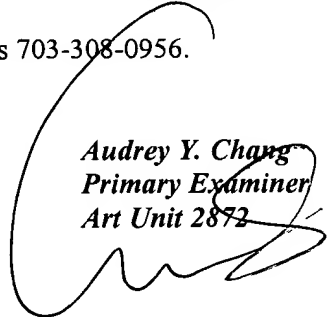
Art Unit: 2872

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 703-305-0024. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Audrey Y. Chang
Primary Examiner
Art Unit 2872



A. Chang, Ph.D.